

REMARKS

Claims 1-17, 19-24, and 26-28 remain pending in this application for which applicants seek reconsideration.

Allowable Claims

Claims 26 and 27 have been allowed. Claim 13 has been indicated to be allowable if it is placed in independent form. As applicants believe that claim 12, from which claim 13 depends, distinguishes over the art of record, claim 13 has not been placed in independent form.

Art Rejection

The examiner rejected claims 1-12, 14-17, 19-24, and 28 under 35 U.S.C. § 103(a) as unpatentable over various combinations of Fig. 19 (admitted prior art), Janning (5,537,482), Herr (USP 4,283,647), JP 11-220846, Mulgrave (USP 5,710,474), Watanabe (USP 6,222,286), Barbrook (USP 3,993,972), Lee (USP 6,060,810), Kishi (USP 4,429,240). Applicants traverse these rejections because none of the applied references, whether taken singly or in combination, would have taught the claimed magnetic vibrator, as called for in independent claims 1, 3, 12, 15, 16, and 17.

Each of claims 1, 3, 12, 15, 16, and 17 call for a vibrator made of magnetic material supporting a permanent magnet. According to the present invention, the vibrator itself is made of magnetic material to decrease the non-magnetic gap between the inner and outer yokes. See for example page 11 of the present specification, lines 16-23.

The examiner correctly analyzed that Fig. 19 (Prior Art) does not disclose or teach a vibrator made of magnetic material. In this regard, the examiner relied upon Herr for the proposition that such a feature in a linear motor would have been desirable to reduce flux loss due to fringing. Applicants disagree with the examiner's assessment. First, in contrast to the examiner's understanding, Herr does not teach a vibrator made of a magnetic material. Second, Herr's invention is directed to a rotary motor, not a linear motor; Herr merely discloses completing or closing a flux path between two spaced magnets of a rotary motor by **contacting** both magnets with a ferromagnetic material (the housing 12). Note that the vibrator in Fig. 19 is cylindrical.

Accordingly, there is no need to close or complete a flux path in Fig. 19. There simply is no nexus between Herr's teachings and the desirability of having a magnetic vibrator in Fig. 19. Applicants submit that neither the prior art nor the examiner has provided any viable reasons for or the desirability of using a magnetic vibrator in a linear motor. The other applied references do not alleviate the shortcomings noted above regarding a magnetic vibrator. Accordingly, applicants submit that these claims patentably distinguish over the applied references.

As to claims 19, 23, and 28, applicants traverse the rejection based on Fig. 19, Janning, Herr, Mulgrave, and Kishi because the applied references would not have taught the claimed yoke or yoke section made of metallic magnetic particles. Such construction allows the magnetic particles to be electrically insulated from each other to restrain eddy current loss. Accordingly, the yokes need not be made of laminated steel sheets. See page 17, lines 1-4.

The examiner essentially relies on Mulgrave for the proposition that a body made of metallic magnetic particles is known. Indeed, such a body is known, as taught by Mulgrave. What is germane here, however, is not whether such body is known, but rather to whether sufficient motivation exists for applying Mulgrave's teachings in a linear motor of Fig. 19. Note that Mulgrave teaches a rotary motor and not a linear motor. Specifically, Mulgrave teaches using an epoxy based doped with magnetic sintered powder metals rather than pure iron powders because pure iron powders are susceptible to nitrogen aging, which deteriorates magnetic performance with time. See Mulgrave's Column 8, lines 52-59. In the embodiment of Fig. 19, the yokes are made of laminated steel sheets. Neither Mulgrave nor any other applied reference teaches any performance issues with laminated steel sheets. Accordingly, there would not have been any motivation for one of ordinary skill in the art to look to Mulgrave's teachings. Applicants submit that claims 19, 23, and 28 patentably distinguish over the applied references.

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Conclusion

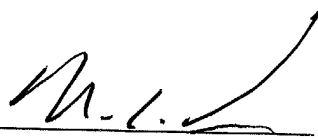
Applicants submit that all of the pending claims patentably distinguish over the applied references within the meaning of § 103, and thus urge the examiner to issue an early Notice of Allowance. Should the examiner have any issues concerning this reply or any other outstanding issues remaining in this application, applicants urge the examiner to contact the undersigned.

Petition for Time Extension

Applicants request a two-month extension, from October 25, 2002 to December 25, 2002, for replying to the outstanding Office Action. The two-month extension fee is \$400. The Commissioner is authorized to charge \$400 (or any additional fees required to maintain the pendency of this application) to Deposit Account No. 18-2056.

Respectfully submitted,

Date: 12/17/02



Marc A. Rossi
Registration No. 31,923

ROSSI & ASSOCIATES
P.O. Box 826
Ashburn, VA 20146-0826
Phone: 703-726-6020